

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
14 October 2004 (14.10.2004)

PCT

(10) International Publication Number
WO 2004/087286 A1

(51) International Patent Classification⁷: **B01D 17/022**,
B01D 20/26, 20/28, B01D 17/04, 17/00, 17/12, 17/025

(21) International Application Number:
PCT/CA2003/000468

(22) International Filing Date: 1 April 2003 (01.04.2003)

(25) Filing Language: English

(26) Publication Language: English

(71) Applicant (for all designated States except US): SEPA-
RATECH CANADA INC. [CA/CA]; 221 St-Sacrement,
Montreal, Québec H2Y 1X2 (CA).

(72) Inventor; and

(75) Inventor/Applicant (for US only): BENACHENHOU,
Amine [CA/CA]; 9409, rue de Marseille, Montreal,
Québec H1L 1T4 (CA).

(74) Agents: MURPHY, Kevin, P. et al.; Ogilvy Renault, Suite
1600, 1981 McGill College Avenue, Montreal, Québec
H3A 2Y3 (CA).

(81) Designated States (national): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,
MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD,
SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US,
UZ, VC, VN, YU, ZA, ZM, ZW.

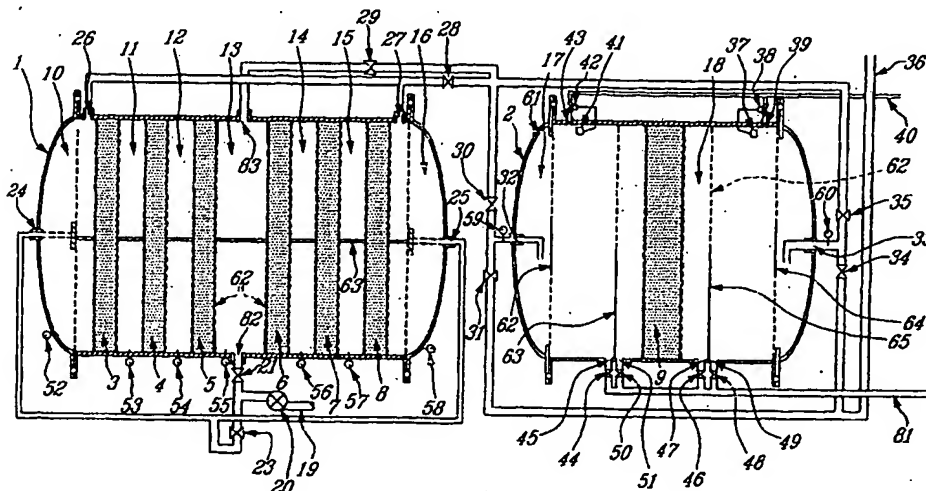
(84) Designated States (regional): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,
SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM,
GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- with amended claims

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: METHOD AND APPARATUS FOR OIL WATER SEPARATION



(57) Abstract: A method and apparatus for separating immiscible liquids in a dispersion containing an aqueous liquid and at least one dispersed non-aqueous liquid by passing the dispersion through a series of absorbents, preferably polymeric. The direction of the flow through the absorbent is periodically changed. The period required before a change of the flow direction is established by the differential pressure. There is a gradual increase in the differential pressure across the absorbents which indicates a blockage due to viscous oil and/or solids. The product produced by the method and the apparatus of the invention is a polished non-aqueous phase and a polished aqueous phase both having low contaminant levels. In a preferred embodiment when solids are also present in the dispersion, a solids stream is also recovered.

WO 2004/087286 A1